IIA1 V$_H$ (SEQ ID NO: 1):
QVQLKESGPGLVAPSQSLSITCTISGFSLTDYGVHWVRQPPGKGLEWLVVIWSDGSSTYNSALKSRMTI
RKDNSKSQVFLIMNSLQTDDSAMYYCARHGTYYGMTTTGDALDYWGQGTSVTVSS

V$_H$ 1.0 (SEQ ID NO: 2):
QVQLVESGPGLVQPGGSLRISCAISGFSLTDYGVHWVRQAPGKGLEWLVVIWSDGSSTYNSALKSRMT
ISKDNSKSTVYLQMNSLRAEDTAMYYCARHGTYYGMTTTGDALDYWGQGTLVTVSS

V$_H$ 2.0 (SEQ ID NO: 3):
EVQLVESGGGLVQPGGSLRISCAISGFSLTDYGVHWVRQAPGKGLEWLVVIWSDGSSTYNSALKSRMT
ISKDNSKNTVYLQMNSLRAEDTAVYYCARHGTYYGMTTTGDALDYWGQGTLVTVSS

V$_H$ 3.0 (SEQ ID NO: 4):
EVQLVESGGGLVQPGGSLRLSCAASGFSLTDYGVHWVRQAPGKGLEWVSVIWSDGSSTYNSALKSRF
TISRDNSKNTLYLQMNSLRAEDTAVYYCARHGTYYGMTTTGDALDYWGQGTLVTVSS

V$_H$ 4.0 (SEQ ID NO: 5):
EVQLVESGGGLVQPGGSLRLSCAISGFSLTDYGVHWVRQAPGKGLEWLVVIWSDGSSTYNSALKSRM
TISKDNSKSTVYLQMNSLRAEDTAVYYCARHGTYYGMTTTGDALDYWGQGTLVTVSS

V$_H$ 5.0 (SEQ ID NO: 6):
QVQLVESGGGLVQPGGSLRISCAISGFSLTDYGVHWVRQAPGKGLEWLVVIWSDGSSTYNSALKSRMT
ISKDNSKSTVYLQMNSLRAEDTAMYYCARHGTYYGMTTTGDALDYWGQGTLVTVSS

IIA1 V$_L$ (SEQ ID NO: 7):
QIVLTQSPAIMSASLGERVTMTCTASSSVSSNYLHWYQQKPGSAPNLWIYSTSNLASGVPARFSGSGSG
TSYSLTISSMEAEDAATYYCHQYLRSPPTFGGGTKLEIKR

V$_L$ 1.0 (SEQ ID NO: 8):
DIQLTQSPSSMSASLGDRVTMTCTASSSVSSNYLHWYQQKPGKAPNLWIYSTSNLASGVPSRFSGSGSG
TDYTLTISSMQPEDFATYYCHQYLRSPPTFGQGTKLEIKR

V$_L$ 2.0 (SEQ ID NO: 9):
DIQLTQSPSSLSASVGDRVTMTCTASSSVSSNYLHWYQQKPGKAPKLWIYSTSNLASGVPSRFSGSGSG
TDYTLTISSMQPEDFATYYCHQYLRSPPTFGQGTKLEIKR

V$_L$ 3.0 (SEQ ID NO: 10):
DIQMTQSPSSLSASVGDRVTITCTASSSVSSNYLHWYQQKPGKAPKLLIYSTSNLASGVPSRFSGSGSGT
DFTLTISSLQPEDFATYYCHQYLRSPPTFGQGTKVEIKR

V$_L$ 4.0 (SEQ ID NO: 11):
DIQLTQSPSSLSASVGDRVTITCTASSSVSSNYLHWYQQKPGKAPKLWIYSTSNLASGVPSRFSGSGSGT
DYTLTISSLQPEDFATYYCHQYLRSPPTFGQGTKVEIKR

V$_L$ 5.0 (SEQ ID NO: 12):
DIQLTQSPSSLSASVGDRVTMTCTASSSVSSNYLHWYQQKPGKAPKLWIYSTSNLASGVPSRFSGSGSG
TDYTLTISSLQPEDFATYYCHQYLRSPPTFGQGTKVEIKR

FIGURE 1

VH

	FR1	CDR1	FR2	CDR2	FR3	CDR3	FR4
IIA1 V_H	QVQLKESGPGLVAPSQSLSITCTIS	GFSLTDYGVH	WVRQPPGKGLEWLV	VIWSDGSSTYNSALKS	RMTIRKDNSKSQVFLIMNSLQTDDSAMYYCAR	HGTYYGMTTTGDALDY	WGQGTSVTVSS
V_H 1.0	QVQLVESGPGLVQPGGSLRLSCAIS	GFSLTDYGVH	WVRQAPGKGLEWLV	VIWSDGSSTYNSALKS	RMTISKDNSKSTVYLQMNSLRAEDTAMYYCAR	HGTYYGMTTTGDALDY	WGQGTLVTVSS
V_H 2.0	EVQLVESGGGLVQPGGSLRLSCAIS	GFSLTDYGVH	WVRQAPGKGLEWLV	VIWSDGSSTYNSALKS	RMTISKDNSKNTVYLQMNSLRAEDTAVYYCAR	HGTYYGMTTTGDALDY	WGQGTLVTVSS
V_H 3.0	EVQLVESGGGLVQPGGSLRLSCAAS	GFSLTDYGVH	WVRQAPGKGLEWVS	VIWSDGSSTYNSALKS	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	HGTYYGMTTTGDALDY	WGQGTLVTVSS
V_H 4.0	EVQLVESGGGLVQPGGSLRLSCAIS	GFSLTDYGVH	WVRQAPGKGLEWLV	VIWSDGSSTYNSALKS	RMTISKDNSKSTVYLQMNSLRAEDTAVYYCAR	HGTYYGMTTTGDALDY	WGQGTLVTVSS
V_H 5.0	QVQLVESGGGLVQPGGSLRLSCAIS	GFSLTDYGVH	WVRQAPGKGLEWLV	VIWSDGSSTYNSALKS	RMTISKDNSKSTVYLQMNSLRAEDTAMYYCAR	HGTYYGMTTTGDALDY	WGQGTLVTVSS

VL

	FR1	CDR1	FR2	CDR2	FR3	CDR3	FR4
IIA1 V_L	QIVLTQSPAIMSASLGERVTMTC	TASSSVSSNYLH	WYQQKPGSAPNLWIY	STSNLAS	GVPARFSGSGSGTSYSLTISSMEAEDAATYYC	HQYLRSPPT	FGGGTKLEIKR
V_L 1.0	DIQLTQSPSSMSASLGDRVTMTC	TASSSVSSNYLH	WYQQKPGKAPNLWIY	STSNLAS	GVPSRFSGSGSGTDYTLTISSMQPEDFATYYC	HQYLRSPPT	FGQGTKLEIKR
V_L 2.0	DIQLTQSPSSLSASVGDRVTMTC	TASSSVSSNYLH	WYQQKPGKAPKLWIY	STSNLAS	GVPSRFSGSGSGTDYTLTISSMQPEDFATYYC	HQYLRSPPT	FGQGTKLEIKR
V_L 3.0	DIQMTQSPSSLSASVGDRVTITC	TASSSVSSNYLH	WYQQKPGKAPKLLIY	STSNLAS	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	HQYLRSPPT	FGQGTKLEIKR
V_L 4.0	DIQLTQSPSSLSASVGDRVTITC	TASSSVSSNYLH	WYQQKPGKAPKLWIY	STSNLAS	GVPSRFSGSGSGTDYTLTISSLQPEDFATYYC	HQYLRSPPT	FGQGTKVEIKR
V_L 5.0	DIQLTQSPSSLSASVGDRVTMTC	TASSSVSSNYLH	WYQQKPGKAPKLMIY	STSNLAS	GVPSRFSGSGSGTDYTLTISSLQPEDFATYYC	HQYLRSPPT	FGQGTKVEIKR

FIGURE 2

A. IIA1 V_H sequences
[NA, SEQ ID NO: 13; AA, SEQ ID NO: 1]

```
  1    ATGGCTGTCCTGGGGCTGCTTCTCTGCCTGGTGACTTTCCCAAGCTGTGTCCTGTCCCAG
       M   A   V   L   G   L   L   L   C   L   V   T   F   P   S   C   V   L   S   Q
 61    GTGCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCCATCACA
       V   Q   L   K   E   S   G   P   G   L   V   A   P   S   Q   S   L   S   I   T
121    TGCACCATCTCAGGGTTCTCATTAACCGACTATGGTGTTCACTGGGTTCGCCAGCCTCCA
       C   T   I   S   G   F   S   L   T   D   Y   G   V   H   W   V   R   Q   P   P
181    GGAAAGGGTCTGGAGTGGCTGGTAGTGATTTGGAGTGATGGAAGCTCAACCTATAATTCA
       G   K   G   L   E   W   L   V   V   I   W   S   D   G   S   S   T   Y   N   S
241    GCTCTCAAATCCAGAATGACCATCAGGAAGGACAACTCCAAGAGCCAAGTTTTCTTAATA
       A   L   K   S   R   M   T   I   R   K   D   N   S   K   S   Q   V   F   L   I
301    ATGAACAGTCTCCAAACTGATGACTCAGCCATGTACTACTGTGCCAGACATGGAACTTAC
       M   N   S   L   Q   T   D   D   S   A   M   Y   Y   C   A   R   H   G   T   Y
361    TACGGTATGACTACGACGGGGGATGCTTTGGACTACTGGGGTCAAGGAACCTCAGTCACC
       Y   G   M   T   T   T   G   D   A   L   D   Y   W   G   Q   G   T   S   V   T
421    GTCTCCTCA
       V   S   S
```

B. IIA1 V_L sequences
[NA, SEQ ID NO: 14; AA, SEQ ID NO: 7]

```
  1    ATGGATTTTCAGGTGCAGATTTTCAGCTTCCTGCTAATCAGTGCCTCAGTCATAATGTCC
       M   D   F   Q   V   Q   I   F   S   F   L   L   I   S   A   S   V   I   M   S
 61    AGAGGACAAATTGTTCTCACCCAGTCTCCAGCAATCATGTCTGCATCTCTAGGGGAACGG
       R   G   Q   I   V   L   T   Q   S   P   A   I   M   S   A   S   L   G   E   R
121    GTCACCATGACCTGCACTGCCAGTTCAAGTGTAAGTTCCAATTACTTGCACTGGTACCAG
       V   T   M   T   C   T   A   S   S   S   V   S   S   N   Y   L   H   W   Y   Q
181    CAGAAGCCAGGATCCGCCCCCAATCTCTGGATTTATAGCACATCCAACCTGGCTTCTGGA
       Q   K   P   G   S   A   P   N   L   W   I   Y   S   T   S   N   L   A   S   G
241    GTCCCAGCTCGTTTCAGTGGCAGTGGGTCTGGGACCTCTTACTCTCTCACAATCAGCAGC
       V   P   A   R   F   S   G   S   G   S   G   T   S   Y   S   L   T   I   S   S
301    ATGGAGGCTGAAGATGCTGCCACTTATTACTGCCACCAGTATCTTCGTTCCCCACCGACG
       M   E   A   E   D   A   A   T   Y   Y   C   H   Q   Y   L   R   S   P   P   T
361    TTCGGTGGAGGCACCAAGCTGGAAATCAAA
       F   G   G   G   T   K   L   E   I   K
```

FIGURE 3

A. Antibody 200-4 V_H sequences

A. Antibody 200-4 V$_H$ sequences
[NA, SEQ ID NO: 15; AA, SEQ ID NO: 16]

```
  1   ATGGCTGTCCTGGGGCTGCTTCTCTGCCTGGTGACTTTCCCAAGCTGTGTCCTGTCCCAG
      M   A   V   L   G   L   L   L   C   L   V   T   F   P   S   C   V   L   S   Q
 61   GTGCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCCATCACA
      V   Q   L   K   E   S   G   P   G   L   V   A   P   S   Q   S   L   S   I   T
121   TGCACCATCTCAGGGTTCTCATTAACCGACTATGGTGTTCACTGGGTTCGCCAGCCTCCA
      C   T   I   S   G   F   S   L   T   D   Y   G   V   H   W   V   R   Q   P   P
181   GGAAAGGGTCTGGAGTGGCTGGTAGTGATTTGGAGTGATGGAAGCTCAACCTATAATTCA
      G   K   G   L   E   W   L   V   V   I   W   S   D   G   S   S   T   Y   N   S
241   GCTCTCAAATCCAGAATGACCATCAGGAAGGACAACTCCAAGAGCCAAGTTTTCTTAATA
      A   L   K   S   R   M   T   I   R   K   D   N   S   K   S   Q   V   F   L   I
301   ATGAACAGTCTCCAAACTGATGACTCAGCCATGTACTACTGTGCCAGACATGGAACTTAC
      M   N   S   L   Q   T   D   D   S   A   M   Y   Y   C   A   R   H   G   T   Y
361   TACGGTATGACTACGACGGGGGATGCTTTGGACTACTGGGGTCAAGGAACCTCAGTCACC
      Y   G   M   T   T   T   G   D   A   L   D   Y   W   G   Q   G   T   S   V   T
421   GTCTCGAGC
      V   S   S
```

B. Antibody 200-4 V$_L$ sequences
[NA, SEQ ID NO: 17; AA, SEQ ID NO: 18]

```
  1   ATGGATTTTCAGGTGCAGATTTTCAGCTTCCTGCTAATCAGTGCCTCAGTCATAATGTCC
      M   D   F   Q   V   Q   I   F   S   F   L   L   I   S   A   S   V   I   M   S
 61   AGAGGACAAATTGTTCTCACCCAGTCTCCAGCAATCATGTCTGCATCTCTAGGGGAACGG
      R   G   Q   I   V   L   T   Q   S   P   A   I   M   S   A   S   L   G   E   R
121   GTCACCATGACCTGCACTGCCAGTTCAAGTGTAAGTTCCAATTACTTGCACTGGTACCAG
      V   T   M   T   C   T   A   S   S   S   V   S   S   N   Y   L   H   W   Y   Q
181   CAGAAGCCAGGATCCGCCCCCAATCTCTGGATTTATAGCACATCCAACCTGGCTTCTGGA
      Q   K   P   G   S   A   P   N   L   W   I   Y   S   T   S   N   L   A   S   G
241   GTCCCAGCTCGTTTCAGTGGCAGTGGGTCTGGGACCTCTTACTCTCTCACAATCAGCAGC
      V   P   A   R   F   S   G   S   G   S   G   T   S   Y   S   L   T   I   S   S
301   ATGGAGGCTGAAGATGCTGCCACTTATTACTGCCACCAGTATCTTCGTTCCCCACCGACG
      M   E   A   E   D   A   A   T   Y   Y   C   H   Q   Y   L   R   S   P   P   T
361   TTCGGTGGAGGCACCAAGCTCGAGATCAAA
      F   G   G   G   T   K   L   E   I   K
```

FIGURE 4

A. M200 V$_H$ sequences
[NA, SEQ ID NO: 19; AA, SEQ ID NO: 20]

```
  1    TCTAGACCACCATGGCTGTCCTGGGGCTGCTTCTCTGCCTGGTGACTTTCCCAAGCTGTG
                 M   A   V   L   G   L   L   L   C   L   V   T   F   P   S   C
 61    TCCTGTCCCAGGTGCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCGCCCTCACAGAGCC
         V   L   S   Q   V   Q   L   K   E   S   G   P   G   L   V   A   P   S   Q   S
121    TGTCCATCACATGCACCATCTCAGGGTTCTCATTAACCGACTATGGTGTTCACTGGGTTC
         L   S   I   T   C   T   I   S   G   F   S   L   T   D   Y   G   V   H   W   V
181    GCCAGCCTCCAGGAAAGGGTCTGGAGTGGCTGGTAGTGATTTGGAGTGATGGAAGCTCAA
         R   Q   P   P   G   K   G   L   E   W   L   V   V   I   W   S   D   G   S   S
241    CCTATAATTCAGCTCTCAAATCCAGAATGACCATCAGGAAGGACAACTCCAAGAGCCAAG
         T   Y   N   S   A   L   K   S   R   M   T   I   R   K   D   N   S   K   S   Q
301    TTTTCTTAATAATGAACAGTCTCCAAACTGATGACTCAGCCATGTACTACTGTGCCAGAC
         V   F   L   I   M   N   S   L   Q   T   D   D   S   A   M   Y   Y   C   A   R
361    ATGGAACTTACTACGGAATGACTACGACGGGGGATGCTTTGGACTACTGGGGTCAAGGAA
         H   G   T   Y   Y   G   M   T   T   G   D   A   L   D   Y   W   G   Q   G
421    CCTCAGTCACCGTCTCCTCAG^GTAAGAATGGCCTCTAGA
         T   S   V   T   V   S   S
```

B. M200 V$_L$ sequences
[NA, SEQ ID NO: 21; AA, SEQ ID NO: 22]

```
  1    ACGCGTCCACCATGGATTTTCAGGTGCAGATTTTCAGCTTCCTGCTAATCAGTGCCTCAG
                 M   D   F   Q   V   Q   I   F   S   F   L   L   I   S   A   S
 61    TCATAATGTCCAGAGGACAAATTGTTCTCACCCAGTCTCCAGCAATCATGTCTGCATCTC
         V   I   M   S   R   G   Q   I   V   L   T   Q   S   P   A   I   M   S   A   S
121    TAGGGGAACGGGTCACCATGACCTGCACTGCCAGTTCAAGTGTCAGTTCCAATTACTTGC
         L   G   E   R   V   T   M   T   C   T   A   S   S   S   V   S   S   N   Y   L
181    ACTGGTACCAGCAGAAGCCAGGATCCGCCCCCAATCTCTGGATTTATAGCACATCCAACC
         H   W   Y   Q   Q   K   P   G   S   A   P   N   L   W   I   Y   S   T   S   N
241    TGGCTTCTGGAGTCCCAGCTCGTTTCAGTGGCAGTGGGTCTGGGACCTCTTACTCTCTCA
         L   A   S   G   V   P   A   R   F   S   G   S   G   S   G   T   S   Y   S   L
301    CAATCAGCAGCATGGAGGCTGAAGATGCTGCCACTTATTACTGCCACCAGTATCTTCGTT
         T   I   S   S   M   E   A   E   D   A   A   T   Y   Y   C   H   Q   Y   L   R
361    CCCCACCGACGTTCGGTGGAGGCACCAAGCTGGAAATCAAAC^GTAAGTAGAATCCAAAGT
         S   P   P   T   F   G   G   G   T   K   L   E   I   K
421    CTAGA
```
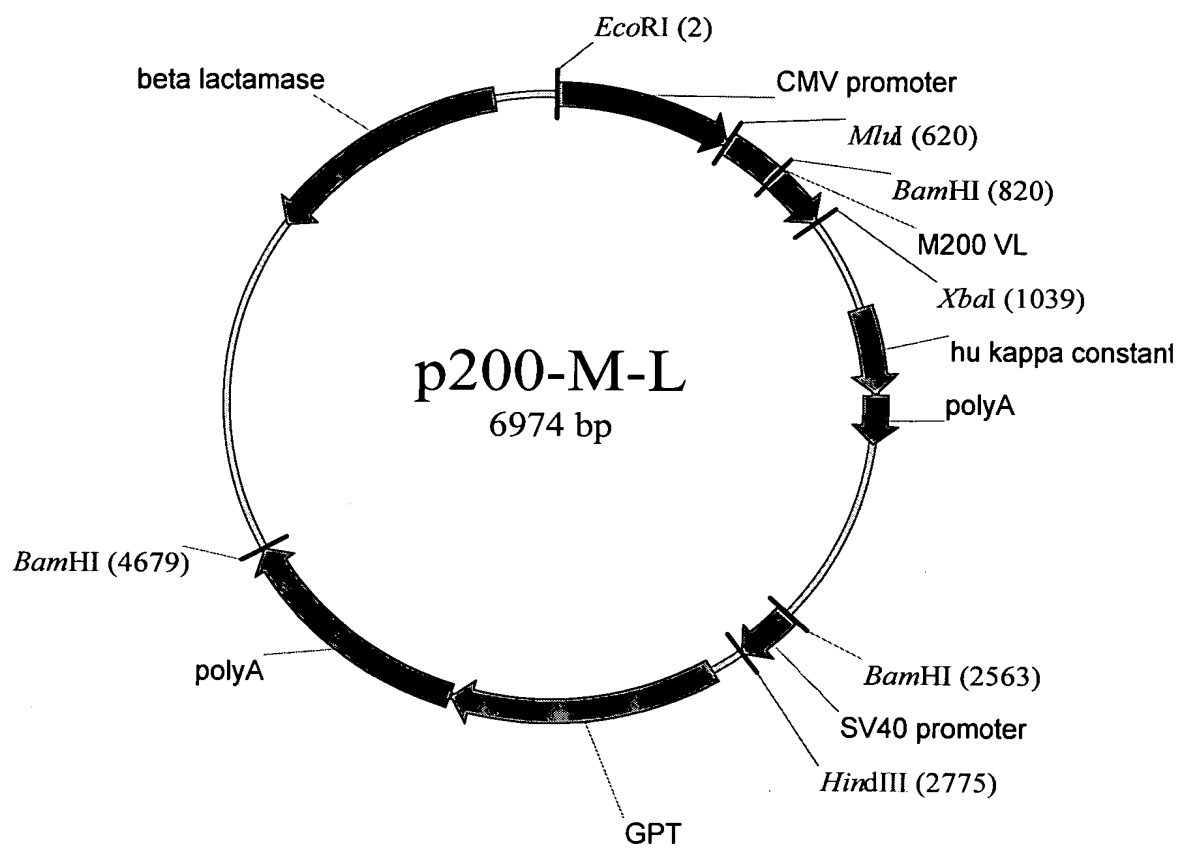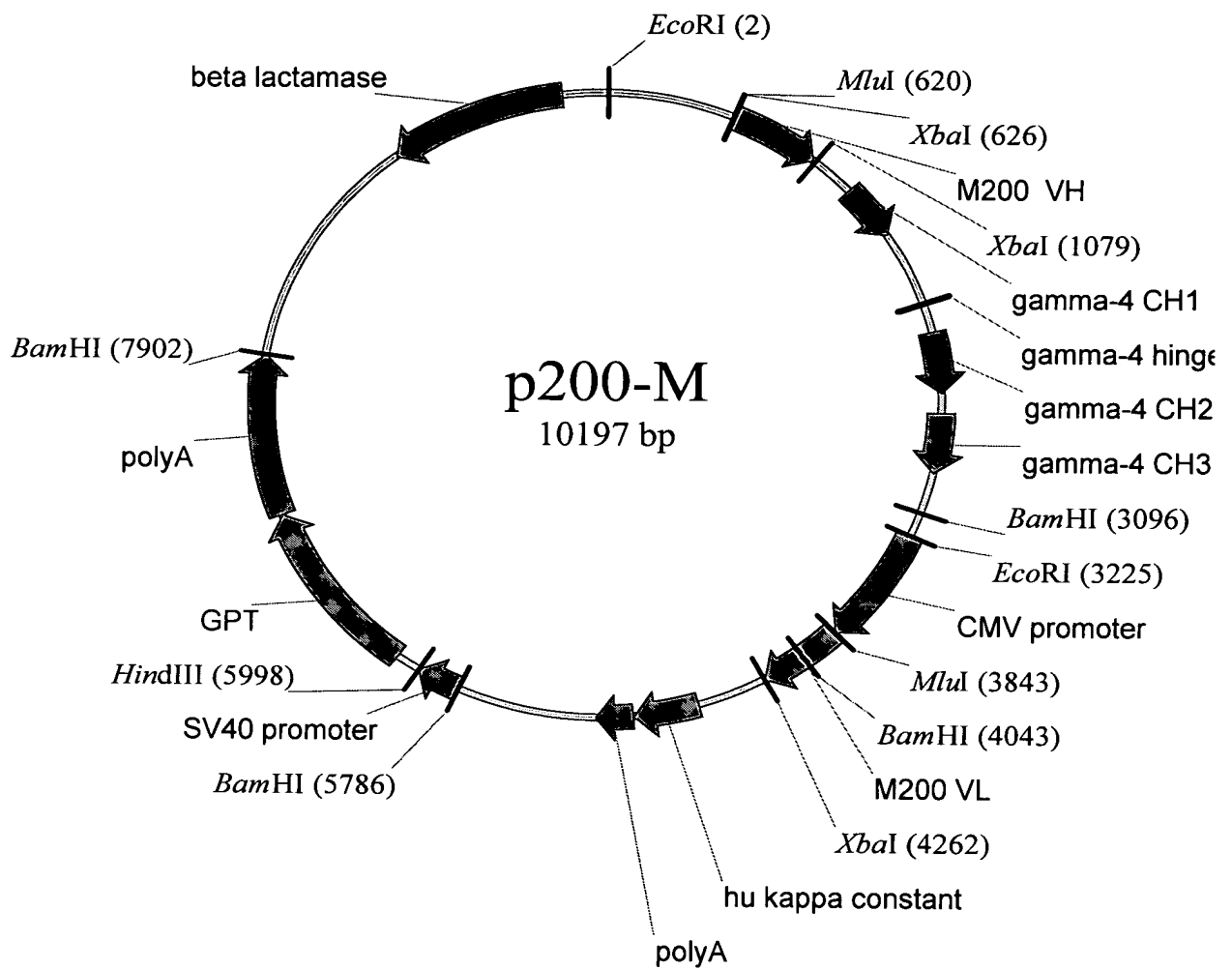
FIGURE 5

EcoRI (2)

XhoI (7)

beta lactamase

FspI (6598)

CMV promoter

MluI (620)

XbaI (625)

M200 VH

XbaI (1078)

gamma-4 CH1

FspI (1822)

gamma-4 hinge

p200-M-H
7367 bp

gamma-4 CH2

SV40 promoter

gamma-4 CH3

DHFR

BamHI (3095)

EcoRI (3224)

FIGURE 6

beta lactamase

EcoRI (2)

CMV promoter

MluI (620)

BamHI (820)

M200 VL

XbaI (1039)

hu kappa constant

polyA

p200-M-L

6974 bp

BamHI (4679)

polyA

GPT

BamHI (2563)

SV40 promoter

HindIII (2775)

FIGURE 7

EcoRI (2)

beta lactamase   MluI (620)

XbaI (626)

M200 VH

XbaI (1079)

gamma-4 CH1

gamma-4 hinge

p200-M

10197 bp

gamma-4 CH2

gamma-4 CH3

BamHI (7902)

BamHI (3096)

polyA

EcoRI (3225)

CMV promoter

GPT

MluI (3843)

HindIII (5998)

BamHI (4043)

SV40 promoter

M200 VL

BamHI (5786)

XbaI (4262)

hu kappa constant

polyA

FIGURE 8

M200 COMPLETE HEAVY CHAIN DNA SEQUENCE
(SEQ ID NO: 23)

CAGGTGCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCC
ATCACATGCACCATCTCAGGGTTCTCATTAACCGACTATGGTGTTCACTGGGTTCGC
CAGCCTCCAGGAAAGGGTCTGGAGTGGCTGGTAGTGATTTGGAGTGATGGAAGCTCA
ACCTATAATTCAGCTCTCAAATCCAGAATGACCATCAGGAAGGACAACTCCAAGAGC
CAAGTTTTCTTAATAATGAACAGTCTCCAAACTGATGACTCAGCCATGTACTACTGT
GCCAGACATGGAACTTACTACGGAATGACTACGACGGGGGATGCTTTGGACTACTGG
GGTCAAGGAACCTCAGTCACCGTCTCCTCAGCTTCCACCAAGGGCCCATCCGTCTTC
CCCCTGGCGCCCTGCTCCAGGAGCACCTCCGAGAGCACAGCCGCCCTGGGCTGCCTG
GTCAAGGACTACTTCCCCGAACCGGTGACGGTGTCGTGGAACTCAGGCGCCCTGACC
AGCGGCGTGCACACCTTCCCGGCTGTCCTACAGTCCTCAGGACTCTACTCCCTCAGC
AGCGTGGTGACCGTGCCCTCCAGCAGCTTGGGCACGAAGACCTACACCTGCAACGTA
GATCACAAGCCCAGCAACACCAAGGTGGACAAGAGAGTTGAGTCCAAATATGGTCCC
CCATGCCCATCATGCCCAGCACCTGAGTTCCTGGGGGGACCATCAGTCTTCCTGTTC
CCCCCAAAACCCAAGGACACTCTCATGATCTCCCGGACCCCTGAGGTCACGTGCGTG
GTGGTGGACGTGAGCCAGGAAGACCCCGAGGTCCAGTTCAACTGGTACGTGGATGGC
GTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTTCAACAGCACGTAC
CGTGTGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTGAACGGCAAGGAGTAC
AAGTGCAAGGTCTCCAACAAAGGCCTCCCGTCCTCCATCGAGAAAACCATCTCCAAA
GCCAAAGGGCAGCCCCGAGAGCCACAGGTGTACACCCTGCCCCCATCCCAGGAGGAG
ATGACCAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGCTTCTACCCCAGCGAC
ATCGCCGTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACTACAAGACCACGCCT
CCCGTGCTGGACTCCGACGGCTCCTTCTTCCTCTACAGCAGGCTAACCGTGGACAAG
AGCAGGTGGCAGGAGGGGAATGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCAC
AACCACTACACACAGAAGAGCCTCTCCCTGTCTCTGGGTAAA

M200 COMPLETE LIGHT CHAIN DNA SEQUENCE
(SEQ ID NO: 24)

CAAATTGTTCTCACCCAGTCTCCAGCAATCATGTCTGCATCTCTAGGGGAACGGGTC
ACCATGACCTGCACTGCCAGTTCAAGTGTAAGTTCCAATTACTTGCACTGGTACCAG
CAGAAGCCAGGATCCGCCCCCAATCTCTGGATTTATAGCACATCCAACCTGGCTTCT
GGAGTCCCAGCTCGTTTCAGTGGCAGTGGGTCTGGGACCTCTTACTCTCTCACAATC
AGCAGCATGGAGGCTGAAGATGCTGCCACTTATTACTGCCACCAGTATCTTCGTTCC
CCACCGACGTTCGGTGGAGGCACCAAGCTGGAAATCAAACGAACTGTGGCTGCACCA
TCTGTCTTCATCTTCCCGCCATCTGATGAGCAGTTGAAATCTGGAACTGCCTCTGTT
GTGTGCCTGCTGAATAACTTCTATCCCAGAGAGGCCAAAGTACAGTGGAAGGTGGAT
AACGCCCTCCAATCGGGTAACTCCCAGGAGAGTGTCACAGAGCAGGACAGCAAGGAC
AGCACCTACAGCCTCAGCAGCACCCTGACGCTGAGCAAAGCAGACTACGAGAAACAC
AAAGTCTACGCCTGCGAAGTCACCCATCAGGGCCTGAGCTCGCCCGTCACAAAGAGC
TTCAACAGGGGAGAGTGT

FIGURE 9

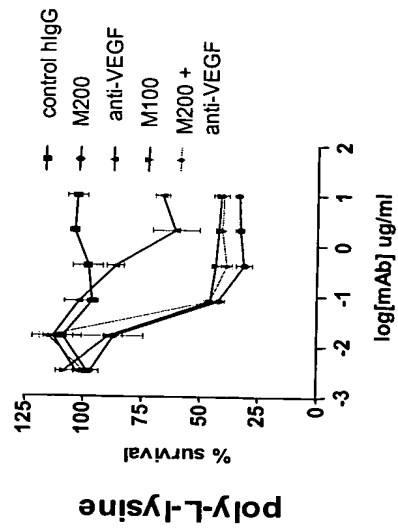## M200 COMPLETE HEAVY CHAIN AMINO ACID SEQUENCE
(SEQ ID NO: 25)

QVQLKESGPGLVAPSQSLSITCTISGFSLTDYGVHWVRQPPGKGLEWLVVIWSDGSS
TYNSALKSRMTIRKDNSKSQVFLIMNSLQTDDSAMYYCARHGTYYGMTTTGDALDYW
GQGTSVTVSSASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALT
SGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTKTYTCNVDHKPSNTKVDKRVESKYGP
PCPSCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSQEDPEVQFNWYVDG
VEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISK
AKGQPREPQVYTLPPSQEEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTP
PVLDSDGSFFLYSRLTVDKSRWQEGNVFSCSVMHEALHNHYTQKSLSLSLGK

M200 COMPLETE LIGHT CHAIN AMINO ACID SEQUENCE
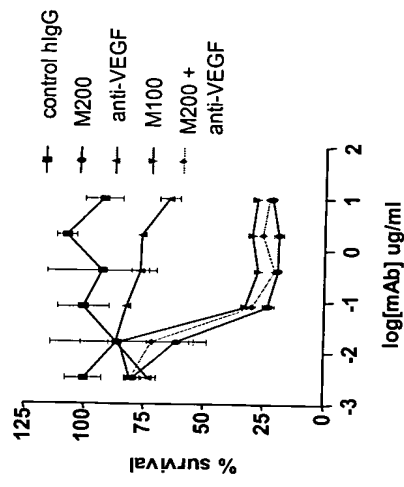## (SEQ ID NO: 26)

QIVLTQSPAIMSASLGERVTMTCTASSSVSSNYLHWYQQKPGSAPNLWIYSTSNLASGVP
ARFSGSGSGTSYSLTISSMEAEDAATYYCHQYLRSPPTFGGGTKLEIKRTVAAPSVFIFP
PSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTL
TLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 10

F200 COMPLETE HEAVY CHAIN DNA SEQUENCE
(SEQ ID NO: 27)

```
CAGGTGCAGCTGAAGGAGTCAGGACCTGGCCTGGTGGCGCCCTCACAGAGCCTGTCC
ATCACATGCACCATCTCAGGGTTCTCATTAACCGACTATGGTGTTCACTGGGTTCGC
CAGCCTCCAGGAAAGGGTCTGGAGTGGCTGGTAGTGATTTGGAGTGATGGAAGCTCA
ACCTATAATTCAGCTCTCAAATCCAGAATGACCATCAGGAAGGACAACTCCAAGAGC
CAAGTTTTCTTAATAATGAACAGTCTCCAAACTGATGACTCAGCCATGTACTACTGT
GCCAGACATGGAACTTACTACGGAATGACTACGACGGGGGATGCTTTGGACTACTGG
GGTCAAGGAACCTCAGTCACCGTCTCCTCAGCTTCCACCAAGGGCCCATCCGTCTTC
CCCCTGGCGCCCTGCTCCAGGAGCACCTCCGAGAGCACAGCCGCCCTGGGCTGCCTG
GTCAAGGACTACTTCCCCGAACCGGTGACGGTGTCGTGGAACTCAGGCGCCCTGACC
AGCGGCGTGCACACCTTCCCGGCTGTCCTACAGTCCTCAGGACTCTACTCCCTCAGC
AGCGTGGTGACCGTGCCCTCCAGCAGCTTGGGCACGAAGACCTACACCTGCAACGTA
GATCACAAGCCCAGCAACACCAAGGTGGACAAGAGAGTTGAGTCCAAATATGGTCCC
CCATGCCCATCA
```


F200 COMPLETE HEAVY CHAIN AMINO ACID SEQUENCE
(SEQ ID NO: 28)

```
QVQLKESGPGLVAPSQSLSITCTISGFSLTDYGVHWVRQPPGKGLEWLVVIWSDGSS
TYNSALKSRMTIRKDNSKSQVFLIMNSLQTDDSAMYYCARHGTYYGMTTTGDALDYW
GQGTSVTVSSASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALT
SGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTKTYTCNVDHKPSNTKVDKRVESKYGP
PCPS
```

FIGURE 11

huM200 COMPLETE HEAVY CHAIN DNA SEQUENCE
(SEQ ID NO: 29)

GAGGTGCAGCTGGTGGAGTCAGGAGGAGGCCTGGTGCAGCCCGGAGGAAGCCTGAGA
CTGTCATGCGCCGCCTCAGGGTTCTCATTAACCGACTATGGTGTTCACTGGGTTCGC
CAGGCCCCAGGAAAGGGTCTGGAGTGGCTGGTGGTGATTTGGAGTGATGGAAGCTCA
ACCTATAATTCAGCTCTCAAATCCAGAATGACCATCTCAAAGGACAACGCCAAGAAC
ACCGTGTACTTACAGATGAACAGTCTCAGAGCTGAGGACACCGCCGTGTACTACTGT
GCCAGACATGGAACTTACTACGGAATGACTACGACGGGGGATGCTTTGGACTACTGG
GGTCAAGGAACCCTGGTCACCGTCTCCTCAGCTTCCACCAAGGGCCCATCCGTCTTC
CCCCTGGCGCCCTGCTCCAGGAGCACCTCCGAGAGCACAGCCGCCCTGGGCTGCCTG
GTCAAGGACTACTTCCCCGAACCGGTGACGGTGTCGTGGAACTCAGGCGCCCTGACC
AGCGGCGTGCACACCTTCCCGGCTGTCCTACAGTCCTCAGGACTCTACTCCCTCAGC
AGCGTGGTGACCGTGCCCTCCAGCAGCTTGGGCACGAAGACCTACACCTGCAACGTA
GATCACAAGCCCAGCAACACCAAGGTGGACAAGAGAGTTGAGTCCAAATATGGTCCC
CCATGCCCATCATGCCCAGCACCTGAGTTCCTGGGGGGACCATCAGTCTTCCTGTTC
CCCCCAAAACCCAAGGACACTCTCATGATCTCCCGGACCCCTGAGGTCACGTGCGTG
GTGGTGGACGTGAGCCAGGAAGACCCCGAGGTCCAGTTCAACTGGTACGTGGATGGC
GTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTTCAACAGCACGTAC
CGTGTGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTGAACGGCAAGGAGTAC
AAGTGCAAGGTCTCCAACAAAGGCCTCCCGTCCTCCATCGAGAAAACCATCTCCAAA
GCCAAAGGGCAGCCCCGAGAGCCACAGGTGTACACCCTGCCCCCATCCCAGGAGGAG
ATGACCAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGCTTCTACCCCAGCGAC
ATCGCCGTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACTACAAGACCACGCCT
CCCGTGCTGGACTCCGACGGCTCCTTCTTCCTCTACAGCAGGCTAACCGTGGACAAG
AGCAGGTGGCAGGAGGGGAATGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCAC
AACCACTACACACAGAAGAGCCTCTCCCTGTCTCTGGGTAAA

huM200 COMPLETE LIGHT CHAIN DNA SEQUENCE
(SEQ ID NO: 30)

GAAATTGTTCTCACCCAGTCTCCAGCAACCCTCTCTCTCTCTCCGGGGGAACGGGCT
ACCCTCTCCTGCACTGCCAGTTCAAGTGTCAGTTCCAATTACTTGCACTGGTACCAG
CAGAAGCCAGGACAGGCCCCCGTCTCCTCATTTATAGCACATCCAACCTGGCTTCT
GGAGTCCCAGCTCGTTTCAGTGGCAGTGGGTCTGGGACCTCTTACACCCTCACAATC
AGCAGCCTCGAGCCAGAAGATTTCGCCGTCTATTACTGCCACCAGTATCTTCGTTCC
CCACCGACGTTCGGTGGAGGCACCAAGGTCGAAATCAAACGAACTGTGGCTGCACCA
TCTGTCTTCATCTTCCCGCCATCTGATGAGCAGTTGAAATCTGGAACTGCCTCTGTT
GTGTGCCTGCTGAATAACTTCTATCCCAGAGAGGCCAAAGTACAGTGGAAGGTGGAT
AACGCCCTCCAATCGGGTAACTCCCAGGAGAGTGTCACAGAGCAGGACAGCAAGGAC
AGCACCTACAGCCTCAGCAGCACCCTGACGCTGAGCAAAGCAGACTACGAGAAACAC
AAAGTCTACGCCTGCGAAGTCACCCATCAGGGCCTGAGCTCGCCCGTCACAAAGAGC
TTCAACAGGGGAGAGTGT

FIGURE 12

huM200 COMPLETE HEAVY CHAIN AMINO ACID SEQUENCE
(SEQ ID NO: 31)

EVQLVESGGGLVQPGGSLRLSCAASGFSLTDYGVHWVRQAPGKGLEWLVVIWSDGSS
TYNSALKSRMTISKDNAKNTVYLQMNSLRAEDTAVYYCARHGTYYGMTTTGDALDYW
GQGTLVTVSSASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALT
SGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTKTYTCNVDHKPSNTKVDKRVESKYGP
PCPSCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSQEDPEVQFNWYVDG
VEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISK
AKGQPREPQVYTLPPSQEEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTP
PVLDSDGSFFLYSRLTVDKSRWQEGNVFSCSVMHEALHNHYTQKSLSLSLGK

huM200 COMPLETE LIGHT CHAIN AMINO ACID SEQUENCE
(SEQ ID NO: 32)

EIVLTQSPATLSLSPGERATLSCTASSSVSSNYLHWYQQKPGQAPRLLIYSTSNLASGVP
ARFSGSGSGTSYTLTISSLEPEDFAVYYCHQYLRSPPTFGGGTKVEIKRTVAAPSVFIFP
PSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTL
TLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 13

Defined: VEGF + bFGF

control hIgG
M200
anti-VEGF
M100
M200 +
anti-VEGF

control IgG
M200
anti-VEGF
M100
M200 +
anti-VEGF

% survival

log[mAb] ug/ml

% survival

log[mAb] ug/ml

Defined: bFGF only

control hIgG
M200
anti-VEGF
M100
M200 +
anti-VEGF

control hIgG
M200
anti-VEGF
M100
M200 +
anti-VEGF

% survival

log[mAb] ug/ml

% survival

log[mAb] ug/ml

Defined: VEGF only

control hIgG
M200
anti-VEGF
M100
M200 +
anti-VEGF

control hIgG
M200
anti-VEGF
M100
M200 +
anti-VEGF

% survival

log[mAb] ug/ml

% survival

log[mAb] ug/ml

poly-L-lysine

fibronectin

FIGURE 14

B.

Inhibition of M200 activity by
anti-idiotype mAbs

A.

HUVEC growth in the presence
of 50 ng/ml VEGF

FIGURE 15

A.

Visualization of Annexin V positive
cells by Immunofluorescence

B.

Quantification of Annexin V positive
cells by flow cytometry

FIGURE 16

Cells in log phase:
no serum or growth factors

Cells in log phase:
serum and growth factors
present

Senescent monolayer:
serum and growth factors
present

FIGURE 17

In Vitro Angiogenesis Model on HUVECs

Mean Fluorescence

■ Hu-IgG @ 6nM
□ Eos200 @ 6nM
□ Eos200-4 Fab @ 60nM
■ Eos200-4 Fab @ 6nM

Treatments

Mean Fluorescence

□ VEGF
□ Eos200-4 Fab @ 60nM
■ Eos200-4 Fab @ 6nM
■ Eos200-4 Fab @ 3nM
■ Eos200-4 Fab @ 600pM
■ Eos200-4 Fab @ 300pM
■ Eos200-4 Fab @ 60pM

Treatments

Mean Fluorescence

■ bFGF
□ Eos200-4 Fab @ 60nM
■ Eos200-4 Fab @ 6nM
■ Eos200-4 Fab @ 3nM
■ Eos200-4 Fab @ 600pM
□ Eos200-4 Fab @ 300pM
□ Eos200-4 Fab @ 60pM

Treatments

Control
F200
(EOS 200-4 Fab)

A. rTGFα, VEGF and HGF added

Control
F200
(EOS 200-4 Fab)

B. Only VEGF added

Control
F200
(EOS 200-4 Fab)

C. Only HGF added

FIGURE 18

A. Control (rituxan)
Day20

B. M200 treated
Day20

FIGURE 19

A. Control (left eye)

Day 13

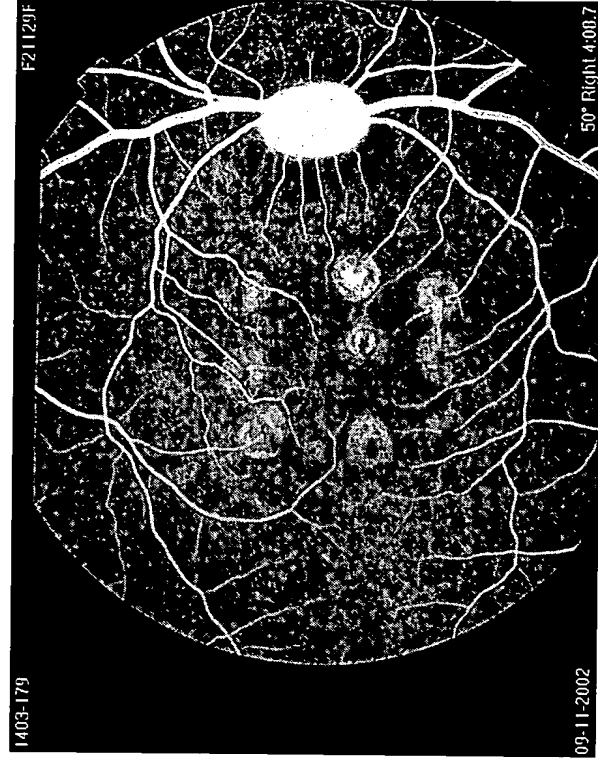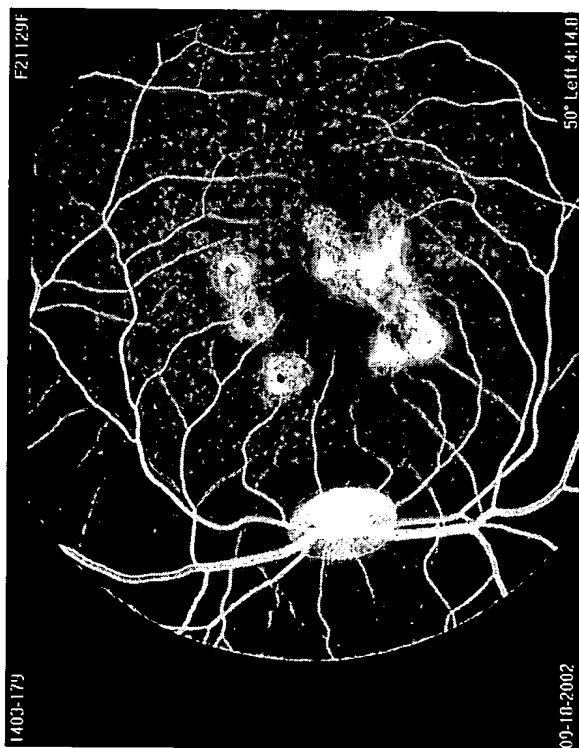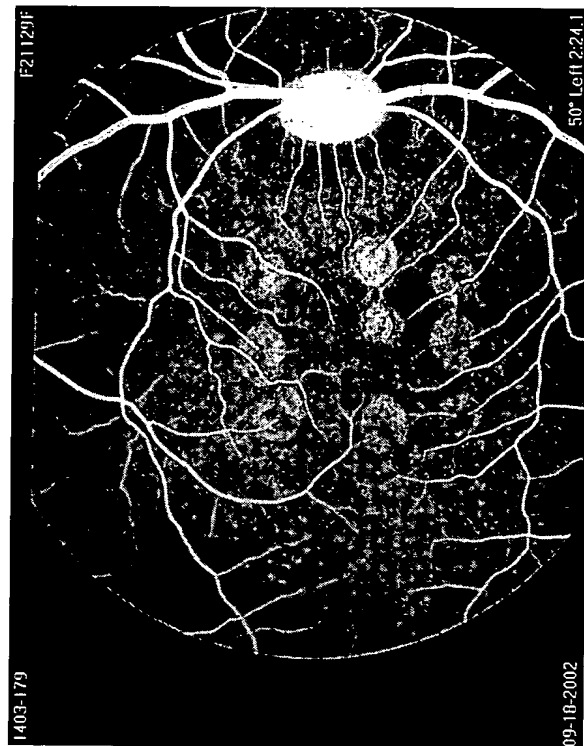B. M200 (right eye)

Day 13

FIGURE 20

A. Control (left eye)
Day 20

B. M200 (right eye)
Day 20

FIGURE 21

B. M200 (right eye)
Day 27

A. Control (left eye)
Day 27

FIGURE 22

B. F200 (right eye)
Day 13

A. Control (left eye)
Day 13

FIGURE 23

B. F200 (right eye)

Day 20

A. Control (left eye)

Day 20

FIGURE 24

B. F200 (right eye)

Day 27

A. Control (left eye)

Day 27

FIGURE 25

Competition ELISA 112103

	EC50 (ug/ml)
Mouse IIA1	79.1
200-4	106.3
huM200-G4	131.8
huM200-g2m3G	102.8

□ Mouse IIA-I
■ 200-4 (Eos)
▼ HuM200 G4 NS0
● HuM200 g2m3G NS0

O.D. 450

Antibody amount (ug)

FIGURE 26